

App. No. 09/251,781
Amdt. Dated February 6, 2004

Amendments to the claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 – 17 (cancelled)

18. (previously amended) In combination, a circular blade and a blade holder for cutting machines, said blade holder comprising:

a blade head secured to a lowering device and comprising a blade head housing having a chamber;

said blade head having a blade holding member;

a circular blade retained in said blade holding member;

an advancing device mounted in said blade head housing;

said advancing device comprising an advancing piston rod and an advancing piston actuating said advancing piston rod;

said advancing piston rod acting on said blade holding member for moving the circular blade from a ready position into a cutting position, thereby overcoming the force of a return spring acting on said advancing piston rod to press said advancing piston rod into the ready position of the circular blade;

said advancing piston actuated by a first pneumatic drive and mounted and guided in said chamber;

a pressing device for neutralizing the force of the return spring acting on the advancing piston rod during a cutting operation, said pressing device exclusively loading said return spring in a direction of the cutting position of the circular blade;

said pressing device decoupled from said advancing piston rod.

19. (previously amended) The combination according to claim 18, wherein said pressing device comprises a slide engaging said pressure device and disposed proximate to said advancing device and the circular blade, and further comprises a second pneumatic drive for actuating said slide.

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20. (previously amended) The combination according to claim 19, wherein said slide embraces externally the blade head housing and is guided at the exterior side of said blade head housing.

21. (previously amended) The combination according to claim 19, wherein said slide has a projection radially extending into said blade head housing, wherein said projection engages said pressure device positioned in a recess of said blade head housing.

22. (Withdrawn) A blade holder according to claim 19, wherein said slide is a slide piston arranged in said blade head housing and loaded by said pneumatic drive.

23. (Withdrawn) A blade holder according to claim 22, wherein said pressure spring is supported at an inner side of said blade head housing and is fastened to said slide piston, wherein said slide piston pretensions said advancing piston rod into the ready position of the circular blade.

24. (Withdrawn) A blade holder according to claim 18, wherein said advancing piston is a diaphragm seated on said advancing piston rod, wherein said diaphragm rests in said chamber such that a circumference of said diaphragm seals against said blade head housing.

25. (Withdrawn) A blade holder according to claim 24, wherein said diaphragm is embodied as a rolling diaphragm.

26. (Withdrawn) A blade holder according to claim 24, comprising a pressure sensor positioned between said diaphragm and said circular blade and measuring a cutting force acting at the circular blade.

27. (Withdrawn) A blade holder according to claim 26, wherein said pressure sensor is arranged between said diaphragm and a side of said chamber proximal to said actuating piston rod.

29. (Withdrawn) A blade holder according to claim 26, further comprising a damping member positioned between said diaphragm and said blade holding member.

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30. (Withdrawn) A blade holder according to claim 29, wherein said damping member is arranged between said diaphragm and a projection of said advancing piston rod.

31. (Withdrawn) A blade holder according to claim 29, wherein said damping member is arranged between said pressure sensor and said projection of said advancing piston rod.

32. (Withdrawn) A blade holder according to claim 30, wherein said advancing piston rod has a longitudinal axis and is divided transversely to said longitudinal axis into rod sections, wherein said damping member is positioned between said rod sections.

33. (Withdrawn) A blade holder according to claim 30, wherein said damping member is a shaped body comprised of elastic material.

34. (Withdrawn) A blade holder according to claim 30, wherein said damping member is a spring.

35. (New) In combination, a circular blade and a blade holder for cutting machines, comprising:

a blade head secured to a lowering device and comprising a blade head housing having a chamber;

said blade head having a blade holding member;

a circular blade retained in said blade holding member;

an advancing device mounted in said blade head housing;

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said advancing device comprising an advancing piston rod and an advancing piston actuating said advancing piston rod;

said advancing piston rod acting on said blade member for moving the circular blade from a ready position into a cutting position, thereby overcoming the force of a biasing component acting on said advancing piston rod to press said advancing piston rod in the ready position of the circular blade;

said advancing piston actuated by a first pneumatic drive and mounted and guided in said chamber;

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said biasing component including a return spring and being mounted within said chamber, said biasing component having one end supported against said advancing piston and another end supported against a support structure within said chamber at an axial spacing from said advancing piston with the axial spacing between said advancing piston and said support structure within said chamber being such that said biasing component is in a ready position compression when said one end of said biasing component is supported against said advancing piston and said another end of said biasing component is supported against said support structure within said chamber; and

a pressing device for increasing the compression of said biasing component beyond said ready position compression of said biasing component by loading said biasing component toward said support structure within said chamber while said axial spacing between said advancing piston and said support structure within said chamber remains constant, whereupon said one end of said biasing component previously supported against said advancing piston is decoupled from and is no longer supported against said advancing piston.

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36. (New) In combination, a circular blade and a blade holder for cutting machines, comprising:

a blade head secured to a lowering device and comprising a blade head housing having a chamber;

said blade head having a blade holding member;

a circular blade retained in said blade holding member;

an advancing device mounted in said blade head housing for moving the circular blade from a ready position into a cutting position;

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said biasing component including a return spring and being mounted within said chamber, said biasing component having one end supported against said advancing piston and another end supported against a support structure within said chamber at an axial spacing from said advancing piston with the axial spacing between said advancing piston and said support structure within said chamber being such that said biasing component is in a ready position compression when said one end of said biasing component is supported against said advancing piston and said another end of said biasing component is supported against said support structure within said chamber; and

a pressing device for increasing the compression of said biasing component beyond said ready position compression of said biasing component by loading said biasing component toward said support structure within said chamber while said axial spacing between said advancing piston and said support structure within said chamber remains constant, whereupon said one end of said biasing component previously supported against said advancing piston is decoupled from and is no longer supported against said advancing piston.